

Amendment to the Claims:

This following listing of claims will replace all prior versions, and listings of claims in the application.

Listing of Claims:

1. (Previously Presented) A measuring device for non-invasively measuring levels of constituents in blood and tissue in a living subject, said measuring device comprising:
 - (a) a polychromatic light source that emits a broad spectrum of light in the near infrared range and adjacent visible light;
 - (b) a part receptor shaped for receiving a part of said subject, said part receptor being located relative to said light source so that when a part of said subject is placed in the part receptor, said light source can be activated and light from said light source can be directed onto said part;
 - (c) a light receptor for collecting a continuum of wavelengths over said broad spectrum after said light has been directed onto said part;
 - (d) a dispersion element coupled to said light receptor for dispersing light collected by said light receptor into a dispersed spectrum of component wavelengths;
 - (e) a photodetector coupled to said dispersion element for taking absorbance measurements from said dispersed spectrum and producing a measurement signal;
 - (f) a communications interface connectable to an external computer for communicating said measurement signal to said external computer, and

(g) a power interface connectable to an external stabilized power source.

2. (Previously Presented) The device of claim 1, wherein said polychromatic light source is connected to said power interface.

3. (Previously Presented) The device of claim 1, further comprising said external computer, wherein said external computer controls at least one function of said compact measuring device, said computer including means for receiving said measurement signal.

4. (Previously Presented) The device of claim 3, further comprising an analog to digital converter for converting said measurement signal into a digital measurement signal for communication to said computer.

5. (Previously Presented) The device of claim 3, wherein, said external computer includes a memory element, a storage element, and a software element for storing a plurality of said measurement signals for a plurality of measurements.

6. (Previously Presented) The device of claim 3, wherein, said external computer includes a memory element, a storage element, and a software element for storing, retrieving and displaying dosage information corresponding to measurement signals received by said computer from said device.

7. (Previously Presented) The device of claim 13, wherein said external stabilized power source is provided by said external computer.

8. (Previously Presented) The device of claim 1, wherein said part receptor is shaped to receive said part in close alignment, so as to reduce extraneous light.

9. (Cancelled)

10. (Currently Amended) The device of claim [[9]] 15, further comprising a hand support at the housing opening, said hand support being adjustable to vary the size of the opening.

11. (Previously Presented) The device of claim 10, wherein, said hand support receives the palm of a human hand and the top of said opening is curved to generally fit the profile of a human hand across the top of the hand.

12. (Previously Presented) The device of claim 1, further comprising said external stabilized power source.

13. (Previously Presented) The device of claim 3, further comprising said external stabilized power source.

14. (Previously Presented) The device of claim 1, wherein said subject is a human or an animal.

15. (New) A measuring device for non-invasively measuring levels of constituents in blood and tissue in a subject, said measuring device comprising:

- (a) a housing having an opening for receiving a hand of the subject;
- (b) a polychromatic light source that emits a broad spectrum of light in the near infrared range and adjacent visible light;
- (c) a part receptor shaped for receiving a finger of said subject, said part receptor being located relative to said light source so that when said finger of said subject is placed in the part receptor, said light source can be activated and light from said light source can be directed onto said finger, said part receptor is shaped to receive said part in close alignment, so as to reduce extraneous light;
- (d) a light receptor for collecting a continuum of wavelengths over said broad spectrum after said light has been directed onto said finger;
- (e) a dispersion element coupled to said light receptor for dispersing light collected by said light receptor into a dispersed spectrum of component wavelengths;
- (f) a photodetector coupled to said dispersion element for taking absorbance measurements from said dispersed spectrum and producing a measurement signal;
- (g) a communications interface connectable to an external computer for communicating said measurement signal to said external computer, and

(h) a power interface connectable to an external stabilized power source.

16. (New) The device of claim 15, wherein said polychromatic light source is connected to said power interface.

17. (New) The device of claim 15, further comprising said external computer, wherein said external computer controls at least one function of said compact measuring device, said computer including means for receiving said measurement signal.

18. (New) The device of claim 17, further comprising an analog to digital converter for converting said measurement signal into a digital measurement signal for communication to said computer.

19. (New) The device of claim 17, wherein, said external computer includes a memory element, a storage element, and a software element for storing a plurality of said measurement signals for a plurality of measurements.

20. (New) The device of claim 17, wherein, said external computer includes a memory element, a storage element, and a software element for storing, retrieving and displaying dosage information corresponding to measurement signals received by said computer from said device.

21. (New) The device of claim 17, further comprising said external stabilized power source.

22. (New) The device of claim 21, wherein said external stabilized power source is provided by said external computer.

23. (New) The device of claim 15, further comprising said external stabilized power source.

24. (New) The device of claim 15, wherein said subject is a human or an animal.